

REMARKS

I. Introduction

In view of the above amendments and the following remarks, reconsideration of the rejections and objections contained in the Office Action of September 19, 2008 is respectfully requested.

By this amendment claims 1 and 10-16 have been amended. Claims 1-20 are now pending in the application. No new matter has been added by these amendments.

The specification has been reviewed and revised, and the amendments are attached herewith. No new matter has been added by these revisions.

II. Drawings

Figures 1-3 were objected to for failure to include a legend designating those figures as prior art. Corrected drawings are attached herewith; withdrawal of this objection is respectfully requested.

The Figures were also objected to under 37 CFR 1.84(p)(4) for the use of the reference numeral "12a" to describe "a first surface" and "a lower surface." That section provides: "The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never be used to designate different parts." It is believed that the drawings comply with this rule because "a first surface" and "a lower surface" are used as interchangeable terms describing the same structure. This corresponds with the specification which provides, at page 6, lines 31-32: "The

liner ring 12 has a lower flat surface 12a (first surface) on the side of the low-pressure space L.”

Withdrawal of this objection is respectfully requested.

III. Prior Art Rejections

Currently, claims 1, 2, and 11-13 are rejected under 35 U.S.C. § 102(b) as being unpatentable over Ebara (EP 0,905,381), claims 10, and 14-16 are rejected under 35 U.S.C. § 102(b) as being unpatentable over BBC (DE 1,937,418), and claims 3-9 and 17-20 are rejected under 35 U.S.C. § 103 as being unpatentable over Ebara in view of BBC.

Claims 1 and 10 are patentable over Ebara and BBC, whether taken alone or in combination, because claims 1 and 10 include seal mechanism comprising, in part, at least one passage formed in at least one of a first surface of an annular seal member and a second surface of a housing such that a negative pressure is introduced into said at least one passage to bring said annular seal member into close contact with said second surface of said housing.

Ebara discloses a seal mechanism with a passage formed between an annular seal member 160 and a U-shaped portion 170. Ebara does not disclose close contact between the annular seal and the housing as required by claim 1, nor does Ebara disclose a negative pressure introduced into the passage formed between the annular seal member 160 and the U-shaped portion 170. To the contrary, the device of Ebara works in precisely the opposite fashion: with a floating annular seal that does not contact the housing. (Ebara Abstract; “The annular seal member is movably supported so that the annular seal member is supported in a floating condition in the fluid therearound in operation.”) Further, it is apparent from Ebara that a negative pressure cannot be

introduced between the annular seal member 160 and the U-shaped portion 170 because this area is filled with a high-pressure fluid. Since claims 1 and 10 recite that the at least one passage is such that a negative pressure is introduced therein causing close contact between the annular member the housing, Ebara fails to meet all of the limitations of those claims.

BBC discloses a floating ring seal with a throttle location on the floating ring (1). As made clear by the title of the invention and the name given to floating ring (1), the seal of BBC floats, and thus is not in close contact with the housing as required by claims 1 and 10. BBC also discloses that there are gaps between the housing and the floating ring, further demonstrating that there is not close contact as required by claims 1 and 10. (BBC translation page 2, lines 20-21; "...sealing surfaces [of the floating ring] which leave sealing gaps 3 between themselves and the side walls of the recess 2.") BBC goes so far as to state that the configuration therein is designed to prevent contact between the floating ring and the housing. (BBC page translation page 3, lines 36-38; "So as to avoid metallic contact between the floating ring and the side walls of the recess 2 during operation, the pressure forces acting on the two facing sides of the floating ring need to be in a balance or equilibrium.") Because claims 1 and 10 recite that the at least one passage is such that a negative pressure is introduced therein causing close contact between the annular member the housing, BBC also fails to meet all of the limitations of those claims.

In summation, neither Ebara nor BBC disclose at least one passage having a negative pressure introduced therein and neither Ebara nor BBC disclose a close contact between an annular seal member and a housing as required by claims 1 and 10. To the contrary, both Ebara and BBC disclose that the respective configurations operate to prevent such contact. It is thus

submitted that the invention of the current application, as defined in claims 1 and 10, is not anticipated nor rendered obvious by the prior art, and yields significant advantages over the prior art. Allowance is respectfully requested.


Claims 2-9 and 11-20 depend, directly or indirectly from claims 1 and 10, respectively, and are thus allowable for at least the reasons set forth above in support of claims 1 and 10.

In view of the foregoing amendments and remarks, inasmuch as all of the outstanding issues have been addressed, Applicants respectfully submit that the present application is in complete condition for issuance of a formal Notice of Allowance, and action to such effect is earnestly solicited.

Should any issues remain after consideration of the within response, however, the Examiner is invited to telephone the undersigned at his convenience. If any fee beyond that submitted herewith, or extension of time is required to obtain entry of this Amendment, the undersigned hereby petitions the Commissioner to grant any necessary time extension and authorizes charging Deposit Account 23-0975 for any such fee not submitted herewith.

Respectfully submitted,

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